

### The impact of NTIA's decision to put LTE on hold

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One year ago, the future of public-safety broadband communications in the 700 MHz band was murky. First-responder organizations in the United States had rallied around [LTE](#) as the technology to deliver wireless broadband applications nationwide, and Congress had convinced the [FCC](#) to abandon plans to auction the 700 MHz D Block spectrum to commercial operators — but significant questions remained.

After all, getting an increasingly partisan Congress to pass any kind of legislation seemed a daunting task, but a law that would reallocate the D Block to public safety was particularly troublesome. Some first-responder representatives hoped that the 10th anniversary of the 9/11 terrorist attacks might spur lawmakers to take action, but that date passed with little tangible progress on Capitol Hill. Meanwhile, getting the billions of dollars needed to deploy LTE nationwide appeared to be an even tougher challenge, as lawmakers focused on reducing the massive national deficit.

But these pieces came together in February, when lawmakers passed a tax-cut bill that included D Block reallocation and \$7 billion in federal funding to support a nationwide public-safety broadband network. While most agreed that \$7 billion would not be enough money to fund LTE buildouts throughout the nation, public-safety officials celebrated the fact that the network would have a 20 MHz spectral foundation — the D Block plus the adjacent 10 MHz swath licensed to the Public Safety Spectrum Trust (PSST) — and significant investment from the federal government.

Today, all statutory milestones for the six-month period have been met, including [appointment of the 15-member First Responder Network Authority \(FirstNet\) board](#) and [initial guidance for the National Telecommunications and Information Administration \(NTIA\) planning grants program](#).

Despite all of this progress, a cloud of uncertainty continues to loom over public-safety LTE at

an industry level. It is unclear what the timetable will be for deployment of the nationwide network, with some speculating that widespread deployment may not begin until 2018. Meanwhile, several jurisdictions that expected to launch public-safety LTE networks with the support of federal funding this year are in limbo, basically awaiting direction from the [FirstNet](#) board and the FCC on their next steps.

Indeed, the considerable industry momentum surrounding public-safety broadband that was so noticeable early in the year effectively has been halted.

"I know there are a lot of things that FirstNet has to consider, but I hope they get this straightened out soon," one industry source said under the condition of anonymity. "Until that happens, they're killing the [public-safety] LTE market."

### Early movers

Most impacted by the current uncertainty are the jurisdictions and vendors associated with the planned early deployments of public-safety [LTE](#). For the most part, these jurisdictions followed a similar path to making their lofty first-responder broadband plans a reality: after securing an [FCC](#) waiver to use the 700 MHz broadband spectrum licensed to the PSST, the entities signed a spectrum lease with the PSST and applied for funding through the Broadband Technologies Opportunity Program (BTOP) established under economic-stimulus law.

Of the initial 21 waiver recipients, 20 sought BTOP funding, and seven jurisdictions were awarded grants of varying amounts. Generally, those entities that did not get federal funding were unable to progress, because local and state budgets have been so tight that elected officials are struggling to maintain ongoing programs, much less taking on massive projects like public-safety LTE networks.

BTOP recipients were required to have their projects two-thirds complete within two years after being chosen for the grant program — a milestone that was supposed to be met in August in the San Francisco Bay area and early next year in other locations.

Of course, progress varied for each recipient. Initially, the San Francisco Bay area was expected to have the first operational network, but spectrum issues and political unrest

prevented its regional coalition from finalizing a vendor agreement with Motorola until early this year. In Los Angeles County — recipient of the largest public-safety LTE grant in the BTOP program — two RFP processes yielded no vendor contract, and a third bidding process has started.

Better progress was made by other jurisdictions. With hopes of using public-safety LTE to help secure the Democratic National Convention, the city of Charlotte, N.C., was on track to begin operations on its broadband network this summer. Adams County, Colo. — a jurisdiction that includes the city of Denver — and the state of Mississippi were prepared to follow a similar schedule.

Another prominent early mover was [Harris](#) County, Texas, which includes the city of Houston. Leveraging non-BTOP federal grant funds, Harris County had enough money to begin public-safety LTE operations this summer, using a spectrum lease from the state of Texas department of public safety.

But all hopes for LTE operations this summer were dashed in the spring, when [NTIA](#) instructed entities not to use federal grant funds to install LTE equipment, in an effort to ensure that the [FirstNet](#) board would be able to implement its desired nationwide buildout without being encumbered by too many incumbent public-safety LTE networks.

"We have been focused like a laser on not allowing individual, innocent decisions being made now that could affect that cost equation later on, when it comes time to design and develop this network," NTIA Assistant Secretary Lawrence Strickling said last month during a session at the [Association of Public-Safety Communications Officials](#) (APCO) conference. "I think it's been hard for people to understand that, if we build out a state here or a series of counties here, we actually can upset the ultimate cost structure of this network by making it more costly, more difficult or actually deterring people from bidding on these projects down the road. ... We're trying to do whatever we can to protect the taxpayer investment."

### **Caught in the middle**

But [NTIA](#) 's position put many early movers in precarious situations. In the San Francisco Bay area, resource-challenged governmental entities that spent almost 5,000 hours of staff time through early 2012 trying to meet NTIA grant buildout deadlines were told to stop working on

the project, which was supposed to be funded largely by a \$50.6 million grant awarded to [Motorola Solutions](#).

"I'm not criticizing — I think the [FCC](#) and NTIA are moving as quickly as possible," said Barry Fraser, interim general manager for the Bay Area Regional Interoperable Communications Systems (BayRICS) Authority. "But these things take time, and it's just unfortunate that we're kind of in the middle of this project, and now we're being told to hold off and wait for further directions."

"It could be several months before we know a lot. It makes it tough for cities and counties to plan for this type of thing. ... It's not the best situation to be in, by any means."

Adams County and the state of Mississippi face even tougher situations, because both entities already had paid for and received [LTE](#) equipment from their respective vendors — in fact, Mississippi had complete installation at 137 of its 144 sites when the NTIA halted work on May 11, according to the state's filing with the FCC.

Meanwhile, the Adams County entity — known as ADCOM 911 — has spent 81% of its network funding, which is "substantially complete," according to the county's FCC filing that seeks special temporary authority (STA) to finish the LTE deployment.

"If an STA is not approved, [\$7.59 million in local and federal funding] will be stranded, and local political goodwill will be extinguished," the filing states. "In addition, all of the LTE equipment has been paid for and is held in three 40-foot storage containers at the ADCOM 911 facility."

## STA-ing alive

On Aug. 1, the [FCC](#) released an order that cleared a path for Charlotte and [Harris](#) County to proceed, under limited circumstances. The commission approved the [interoperability](#) showings for both entities, which was a final prerequisite for proceeding under the pre-[FirstNet](#) regime.

However, the FCC order initially only allows the entities to operate only on the PSST spectrum — not the D Block, which Congress mandated to be licensed to FirstNet — until Sept. 2, after which Charlotte, Harris County and any other qualifying jurisdiction would have to be granted an STA every six months to continue operating its network.

For Charlotte, proceeding with its [LTE](#) plans without knowing whether it would have authority to operate on 700 MHz broadband spectrum introduces too much uncertainty for the city to proceed, according to Chuck Robinson, the city's director of shared services.

"To me, an STA is real scary," he said. "Without some kind of assurance that we can operate on the spectrum until either FirstNet provides services to us or our network elements are incorporated into FirstNet, we can't operate.

"Nobody's offering to pay our operating costs. Without a complete network that I know is going to be there for awhile, it's difficult for me to enter into maintenance contracts, tower contracts and all of these other things."

Harris County officials acknowledge the uncertainties associated with STAs but are opting to proceed with operations on its 6-site system, which officials hope to expand to a 14-site network in the near future.

"We understand that there is some risk involved with going live on an STA, but we're pretty confident that it's eventually going to get a permanent license, and we'll be operating permanently," said Craig Bernard, Harris County's senior director of mobility.

A potential complicating factor is an Aug. 17 letter from [NTIA](#) that asked the FCC to allow early-mover entities to operate LTE networks only if they have networks that utilize the full 20 MHz of 700 MHz broadband spectrum allocated to public safety. Citing findings from the [Public Safety Communications Research](#) (PSCR) program, NTIA said that the transition of LTE networks from 10 MHz to 20 MHz has been "labor-intensive and lengthy," which would introduce unwanted costs into any deployments.

"In addition to the added expense in personnel and time, the change could require additional license fees and software charges," the NTIA letter states. "A vendor has yet to demonstrate a streamlined path for this upgrade that could possibly be managed for efficient network launch."

All jurisdictions would like to be allowed to use the entire 20 MHz swath of spectrum for any deployment, because it would enhance their network performance. However, many industry sources question whether the FCC has the legal authority to grant STA use of spectrum licensed to FirstNet — an independent body within NTIA — and whether it would be wise politically to grant STAs on those airwaves without getting FirstNet's permission first.

In addition, there are other unknowns that remain in the equation, such as the potential impact that post-election personnel changes at NTIA could have, particularly if there is a change in presidential administrations.

Despite all of these hurdles, there is a strong sentiment that having some early-mover projects operating would be helpful to FirstNet's planning efforts, because real-world deployments can allow the FirstNet board to make design and deployment decisions based on actual public-safety LTE experiences, rather than relying solely on consultant reports and recommendations based on theoretical models.

"We all agree that allowing some number of these projects to go forward will be useful; we'll learn something from it, if we're testing the environment that we're going to have in FirstNet," Strickling said. "I think the other thing there's general agreement on is that we should be doing whatever we can to protect the taxpayer money in all of this."

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